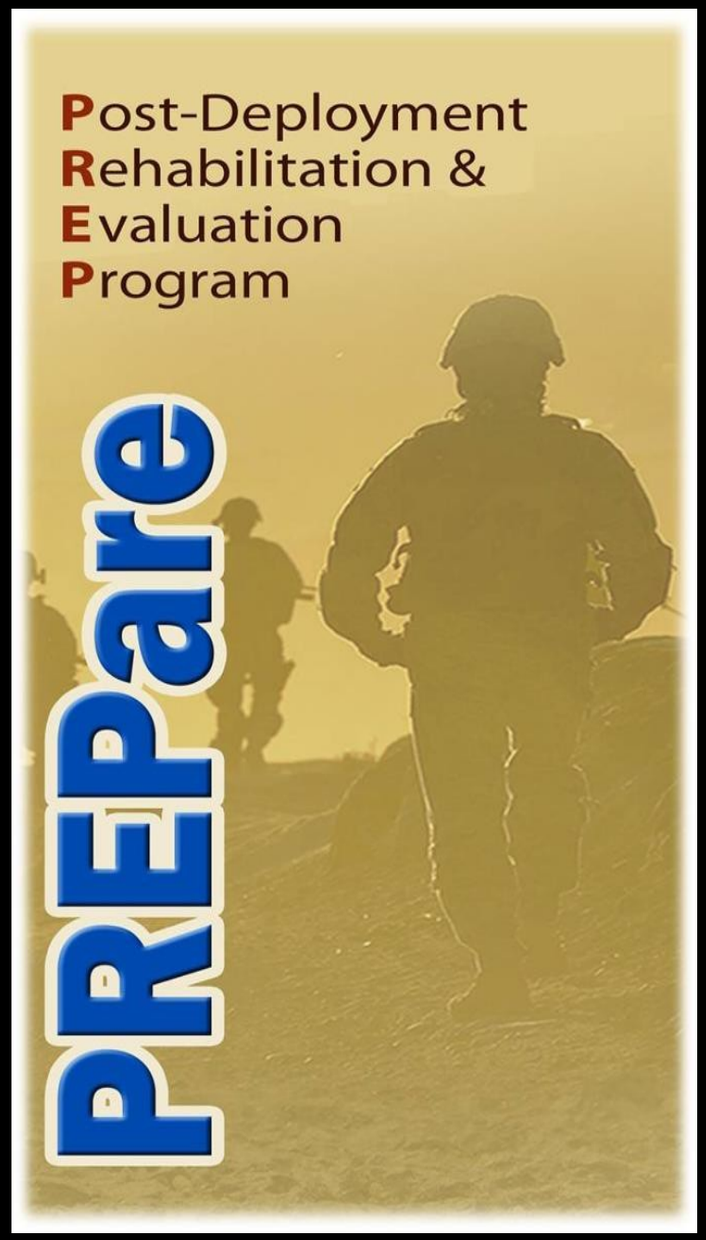
_P_ost-deployment _R_ehabilitation & _E_valuation _P_rogram
-PREP-

- Inpatient program
  - Mild TBI / Post-deployment stress
- Evaluations
- Treatment
- Multi- and Inter-disciplinary



PM&R

Physical Therapy

Neurology

Occupational Therapy

Psychiatry

Optometry

Neuro-psychology

Visual Rehab

Psychology

Audiology

Speech Therapy

Vocational Rehab

Recreational Therapy

TBI

Vocational

PTSD/Mood

Family Issues

Pain

Substance Abuse

Physical Injuries

PREP Team Approach

Integrated evaluations & treatment

- “1-stop shop”…*efficient*
  - Inpatient setting allows:
    - direct and indirect assessment
    - Inter / multidisciplinary team support
    - contextual evaluations
    - functional observations

- *<u>Flexible</u>: not one size fits all*

Practice Guidelines for mTBI

- Majority of mTBI patients improve without lasting effects
  - Neuropsychological recovery is typically complete by 1 month after injury (Belanger, Curtiss, Demery, Lebowitz, & Vanderploeg, 2005)
  - Symptom persistence is more related to psychological, social and motivational factors than to acute injury characteristics (McCrea et al., 2008)
- Significant overalap with psychiatric symptoms (e.g. depression, anxiety disorders)
- Treatments need to promote a recovery expectation

Clinical Practice Guideline: Management of Concussion/mTBI, 2009

Treatment

- Education
  - Explain WHY symptoms are occurring, prognosis
  - ***Consistent information***
- Symptom Management
  - Teach techniques for symptom reduction/prevention, stress reduction, compensatory strategies, coping skills
  - Seeking Safety Group, Neurocognitive Group, Cog-Balance Group, Headache Management Group, Tinnitus Group, Sleep Hygiene Group
- Specific Symptoms
  - Headache, Vestibular, Cognition, Mood

Short-Stay Outcomes

PREP Demographics

	Mean	SD
Age	30.3	6.6
LOS – days	21.2	10.8

Male	95%
Caucasian	60.4 %
Active Duty	48.5 %
Army	41.2 %
>1 combat tour	33%

N = 168

PREP Outcomes: Short Stay

	Admission	Discharge	*P*	Effect size
Pain	4.7 (2.4)	3.4 (2.4)	.000	.54
Headache (HIT)	62.9 (8.7)	59.9 (10.5)	.000	.31
Sleep	20.4 (6.9)	17.1 (8.8)	.009	.42
Balance (ABC)	70.2 (21.4)	34.9 (38.7)	.000	1.17
Dizziness (DHI)	43.6 (23.3)	38.5 (26.2)	.315	---

P
Questionnaire 0-28; Activities Specific Balance Confidence Scale ; Dizziness Handicap Inventory

PREP Outcomes: Short Stay

(N=66)	**Admission**	**Discharge**	***p***
NSI*	**52.3 (14.3)**	**42.6(19.0)**	**.000**
PCL**	**60.6 (16.7)**	**55.2 (20.2)**	**.000**

*NSI: Neurobehavioral Symptom Inventory 0-88
**PCL-C: Posttraumatic Checklist: 17-85; 50 as cut-off; 5 pts considered significant difference

PREP Outcomes: Short Stay

84% rated their cognitive abilities as improved as compared to admission

71% rated their physical abilities as improved as compared to admission

71% rated their emotional functioning as improved as compared to admission

PREP Outcomes: Short Stay

Overall satisfaction with my evaluation and treatment	8.9
Overall satisfaction with my progress	8.1
I have a better understanding of :	
strategies to help improve sleep	8.1
recovery following concussion	8.2
how mood can effect my thinking	8.4
how to use new strategies to help with my memory, attn & organization (e.g., PDA, lists, taking notes)	8.9
factors contributing to my pain & physical limitations	8.5
how to manage my dizziness and imbalance	8.7
relaxation techniques	8.1

***Scale 1-10, with lower scores being less satisfied/having less understanding*

PREP: Extended Treatment Arm

TBI Step-Care Treatment Model

COGNITIVE ISSUES

IRRITABILITY / IMPULSIVITY

SELF-CARE ROUTINES *
(Sleep Hygiene)

SOMATIC COMPLAINTS
(Pain Management)

BEHAVIORAL HEALTH I ies)

EDUCATION: Expectation of Recovery

† Begin each encounter at the bottom of the pyramid and progress upward

* Includes Sleep Hygiene, diet, exercise, and avoiding further TBI

Terrio, 2009

Report of (VA) Consensus Conference: Practice Recommendations for Treatment of Veterans with Comorbid TBI, Pain, and PTSD

"In summary, there was agreement that Veterans who experience mTBI and/or pain, along with PTSD, should have the opportunity to receive the two best evidence-based treatments in the VA/DoD practice guidelines for PTSD, prolonged exposure therapy or cognitive processing therapy."

Extended Treatment Arm

- Individualized, with additional 1-12 weeks LOS
- Intensive rehabilitation
  - Vestibular, vision, cognitive, physical rehab, Yoga, Cog-Balance group, multi-sensory team, HardCORE, Tinnitus Group, Headache Group, Sleep Hygiene Group
- Intensive mental health treatment
  - Individual & group formats
  - Medication changes
  - Prolonged exposure (PTSD) (+outings)
  - Education
  - Depression, chronic pain, somatization, motivational interviewing, problem solving, acceptance, support

Inpatient TBI Rehabilitation and PE outcomes

Inpatient Demographics

	Mean	SD
Age	31.8	7.8
Education	13	1.7

Male	94%
Caucasian	75%
Married	50%
Active Duty	75%
Army	63%
>1 combat tour	81%

N = 20

LT Outcomes

	Pre-PEtx	Post-PEtx	*p*	Effect size
PCL*	62.5 (9.3)	32.3 (8.4)	.000	3.41
Total**	46.3 (13.56)	29.1 (14.37)	.000	1.23
BDI-II***	29.0 (8.4)	13.1 (6.5)	.000	2.13
Pain	**5.3 (1.8)**	**4.5 (1.5)**	**.000**	**.48**

*PCL: Posttraumatic Checklist (17-85) 50 as cut-off; 5 pts considered significant difference
**NSI = Neurobehavioral Symptom Inventory (0-88)
***BDI-II Beck Depression Inventory: 0-63 (0-13 WNL, 29-63 Severe)
Pain Rating Scale 1-10

Outcomes

100% rated their EMOTIONAL FUNCTIONING as improved as compared to admission

100% rated their SLEEP as improved as compared to admission

100% rated their COGNITIVE ABILITIES as improved as compared to admission

100% rated their PHYSICAL ABILITIES as improved as compared to admission


OASIS


CYBER CENTER


Hospital

Questions ???